

ABSTRACT OF THE DISCLOSURE

A method of forming capacitors with geometric deep trenches. First, a substrate with a pad structure formed thereon is provided, and a first hard mask layer is formed
5 on the pad structure. Next, a second hard mask layer is formed on the first hard mask layer. Next, a spacer layer is formed in the first opening on the first hard mask layer to expose a second opening. Next, a third hard mask layer is filled the second opening, and the spacer layer is
10 removed. Next, the first hard mask layer is etched to expose a third opening with a salient of the first hard mask layer, with the second hard mask layer and the third hard mask layer acting as masks. Finally, the first hard mask layer, the pad structure, and the substrate are etched to
15 form a geometric deep trench.